

### **REMARKS/ARGUMENTS**

Applicant has reviewed and considered the Final Office Action mailed on December 16, 2008, and the references cited therewith.

Claims 9 and 19 are amended, no claims are canceled, and no claims are added. Claims 1-9, 12-19, and 22-24 are pending in this application.

Applicant has amended the claims to more clearly recite the claimed subject matter and respectfully submits that none of the amendments herein introduce any new subject matter.

#### **§ 112 Rejection of the Claims**

Claims 9 and 19 were rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicant has amended claims 9 and 19 to more clearly recite the claimed subject matter.

With respect to the amendments to claims 9 and 19, Applicant respectfully submits that “embedded” and “on an outside surface” are not mutually exclusive limitations. The dictionary provides embed to mean “1. To fix firmly in a surrounding mass: *embed a post in concrete; fossils embedded in shale*. 2. To enclose snugly or firmly. 3. To cause to be an integral part of a surrounding whole.” (embed. Dictionary.com. *American Heritage Dictionary*, <http://dictionary.reference.com/browse/embed> (accessed: January 08, 2009)). Each of the preceding definitions would provide that an RF marker which is embedded can also be on an outside surface. A helpful and analogous situation provided by the dictionary, in association with definition one: to fix firmly in a surrounding mass, is “embed a post in concrete.” In this situation the post is embedded but is not completely buried in the concrete such that the intended functionality of the post is compromised.

Based on the forgoing, Applicant respectfully requests reconsideration and withdrawal of the 112 rejection of claims 9 and 19.

§ 103 Rejection of the Claims

Claims 1, 4-9, 13-14 and 16-19 were rejected under 35 USC § 103(a) as being unpatentable over Solovay (U.S. Patent No. 6,482,227) in view of Case, et al. (U.S. Publication No. 2004/0167619). Applicant respectfully traverses the rejection as follows.

As appreciated, if a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.

Solovay appears to teach a stent graft for repairing abdominal aortic aneurysms (Field of the Invention) which includes three radiopaque markers, two being near the distal end of the stent graft, and one proximal thereto (Column 7, lines 12-14, Figures 1 and 2). Solovay provides that the radiopaque markers are coils of radiopaque metal that is wrapped around the struts of the stent (Column 7, lines 6-8). Solovay provides that the two distally located radiopaque markers are 180° apart, and that the third radiopaque marker is located at an equal distance from each of the two distally located radiopaque markers (Column 7, lines 14-17).

Solovay appears to teach that the three radiopaque markers and the positioning of the three radiopaque markers are integral in placing the stent graft. Solovay provides that the proximal marker, which is located at an equal distance from each of the two distally located radiopaque markers, aids in proper rotational positioning of the device (Column 7, lines 17-18). Additionally, Solovay provides that one of the distal radiopaque markers is adjacent to the aperture 34 in the gasket and the other distal radiopaque marker is adjacent to the hole 36 (Column 7, lines 18-201, Figure 2). The specific placement of the three radiopaque markers is employed to provide that the hole 36 is placed adjacent to the right side of the aneurysm (Column 7, lines 21-25, Figure 19).

The Office Action, mailed on December 16, 2008, provides that Case teaches that markers “may delineate a circumference of a cell or aperture (for

example, see Figure 15) in order to precise identification of the cell or aperture (for example, see paragraph 52).” (Office Action, pages 3-4).

However, to modify the graft stent of Solovay with the markers, which delineate a circumference of a cell or aperture in order to precisely identify the cell or aperture, of Case would render the stent graft of Solovay being modified with Case unsatisfactory for its intended purpose.

For example, Solovay indicates that the three radiopaque markers, which are wrapped around the struts of the stent and are respectively 2 millimeters (mm), 2 mm, and 5 mm in length, are positioned along the stent so that physician better knows the position of the stent during deployment and so that the hole is placed adjacent to the right side of the aneurysm. (Column 7, lines 5-25). If, however, the device of Solovay were reconfigured to include the Case like markers then the resultant device would be inoperable for its intended purpose because the precision required for the particular placement of the device, provided by the explicitly located and requisitely finite makers as apparently taught by Solovay, would be lost to the relatively immense markers as apparently taught by Case. In other words, the relatively pin-point focus provided by the markers as apparently taught by Solovay would be replaced by the much larger, and thus less focused and more ambiguous, markers as apparently taught by Case to decrease the physician’s ability to precisely place the device adjacent to the right side of the aneurysm.

The Advisory Action, mailed on April 01, 2009, provides that “Solovay’s markers are not being replaced as applicant argues. Solovay’s markers are being modified by the technique taught by Case. That is, the markers would delineate the entire cell, as opposed to a just a single strut of the cell” (Continuation Sheet).

This appears to be exactly what Applicant argues. If the “markers would delineate the entire cell, as opposed to a just a single strut of the cell” then the relatively pin-point focus markers as apparently taught by Solovay would become the much larger, and less focused and more ambiguous, markers as taught by Case.

An example of the less focused and more ambiguous Case markers would be when the two distally located radiopaque markers are 180° apart. As Solovay

provides, the third radiopaque marker is located at an equal distance from each of the two distally located radiopaque markers. Placing a third radiopaque marker an equal distance from two distally located radiopaque markers that are 180° apart appears to be relatively straight forward when the third radiopaque marker is the pin-point type marker as provided by Solovay. However, when the pin-point type marker is enlarged to a marker that would delineate an entire cell, as provided by Case, then multiple points on the modified delineated cell which are not an equal distance from the two distally located radiopaque markers which are 180° apart are created. These created multiple points that are not an equal distance from two distally located radiopaque markers that are 180° represent the unavoidable loss of precision associated with the increased size of the marker. Because of the created multiple points that are not an equal distance from two distally located radiopaque markers that are 180°, the proximal marker would not appear fluoroscopically to be midway between the upper two markers as described by Solovay. Rather, the entire delineated cell would appear generally between the upper markers, and the true location that was an equal distance from the upper markers would be indiscernible. Because a physician could not discern the true location that was an equal distance from the upper markers the physician would be required to select a point on the delineated cell when rotationally positioning the device and face the risk of improperly positioning the device.

Additionally, the Office Action provides that Solovay discloses RF markers (15) that form generally concentric loops on an outside surface (in that the marker is only coiled around the top, bottom, and side outside surfaces as opposed to embedded at a depth beneath these surfaces) of each of each of the first and second cells. (Office Action, page 3). Applicant respectfully disagrees with the statement.

Solovay appears to teach a stent 10 (Column 5, lines 19-23, Figure 1) having an interior 18 (Column 5, lines 30-33, Figure 1). Solovay provides that the stent is hollow and substantially cylindrical (Summary of the Invention).

One having ordinary skill would interpret “interior” to be “relating to, or located on the inside; inner” (interior. Dictionary.com. *American Heritage*

*Dictionary*, <http://dictionary.reference.com/browse/interior> (accessed: January 08, 2009)), and would thus understand an item having an interior, or inside, to also have an exterior, or outside. Therefore, the substantially cylindrical stent, as apparently taught by Solovay, has an exterior that is opposite to the interior 18.

Solovay provides markers 15 which are coils of radiopaque metal, wrapped around the struts of the stent. (Column 7, lines 5-8, Figure 1). Because the markers are wrapped around the struts of the stent, the markers are present on the interior 18, or the inside, of the substantially cylindrical stent and the markers are present on the exterior, or the outside which is opposite to interior 18, of the substantially cylindrical stent. Because the markers, as apparently taught by Solovay, are on the inside and on the outside, Solovay apparently does not disclose RF markers that form generally concentric loops on an outside surface of each of each of the first and second cells.

In contrast, Applicant's claim 1 provides, in part, a stent including radio frequency (RF) markers that forms generally concentric loops on an outside surface of the first cell and the second cell to respectively delineate a circumference of the first cell and a circumference of the second cell.

The Advisory Action provides "[i]t is the examiner's position that the claim language fails to distinguish between an exterior portion of a stent having an outside surface and an interior portion having an inside surface as argued. The claims simply require concentric loops on an outside surface of the first and second cells, in which Solovay's exterior and interior portions are considered to comprise outside surfaces" (Continuation Sheet).

Applicant notes that claim 1, for instance, provides, in part: a stent ...that forms a generally tubular structure... a first cell and a second cell... radio frequency markers that form generally concentric loops on an outside surface of the first cell and the second cell. Because the stent described above is a tangible, multidimensional object it must have an exterior portion having an outside surface and an interior portion having an inside surface as argued.

Additionally, Applicant respectfully requests clarification as to the examiner's interpretation of the geometry of a cell.

One having ordinary skill would interpret "cell" to be "a small enclosed cavity or space, such as a compartment in a honeycomb" (cell. Dictionary.com. *American Heritage Dictionary*, <http://dictionary.reference.com/browse/cell> (accessed: April 09, 2009). A cell, as defined above, is illustrated in Applicant's Figure 1C and in Solovay's Figure 1 where there are small enclosed spaces.

Because a cell "encloses" space, the enclosure must have space that is inside the enclosure, and other space(s) outside of the enclosure. Applicant respectfully requests an indication as to which portion(s) of the Solovay cell would be considered an "inside surface" of the cell, as it appears that surfaces bounding and contacting the enclosed spaces (i.e. space that is inside the cell) are considered "outside surfaces".

Based on the forgoing, Applicant respectfully requests reconsideration and withdrawal of the 103 rejection of independent claims 1 and 13 as well as those claims which depend therefrom.

Claims 2, 3 and 15 were rejected under 35 USC § 103(a) as being unpatentable over Solovay (U.S. Patent No. 6,482,227) in view of Case, et al. (U.S. Publication No. 2004/0167619) as applied to claims 1 and 13 above, and in further view of Doran, et al. (U.S. Publication No. 2002/0055770). Applicant respectfully traverses the rejection as follows.

As discussed above, from Applicant's review, it would not have been obvious to one having ordinary skill in the art to form Solovay's markers such that they delineate the circumference of the cells as taught by Case. Furthermore, the Doran reference does not appear to cure the deficiencies of the Solovay and Case references.

Based on the forgoing, Applicant respectfully requests reconsideration and withdrawal of the §103 rejection of dependent claims 2-3 which depend from

independent claim 1 and dependent claim 15 which depends from independent claim 13.

Claims 12 and 22 were rejected under 35 USC § 103(a) as being unpatentable over Solovay (U.S. Patent No. 6,482,227) in view of Case, et al. (U.S. Publication No. 2004/0167619) as applied to claims 1 and 13 above, and in further view of Jackson, et al. (U.S. Publication No. 2003/0004563). Applicant respectfully traverses the rejection as follows.

As discussed above, from Applicant's review, it would not have been obvious to one having ordinary skill in the art to form Solovay's markers such that they delineate the circumference of the cells as taught by Case. Furthermore, the Jackson reference does not appear to cure the deficiencies of the Solovay and Case references.

Based on the forgoing, Applicant respectfully requests reconsideration and withdrawal of the §103 rejection of dependent claim 12 which depend from independent claim 1 and dependent claim 22 which depends from independent claim 13.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's below listed attorney at (612) 236-0122 to facilitate prosecution of this matter.

**CERTIFICATE UNDER 37 C.F.R. §1.8:** The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS RCE Commissioner for Patents, P.O. BOX 1450, Alexandria, VA 22313-1450, on this 16 day of April, 2009.

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